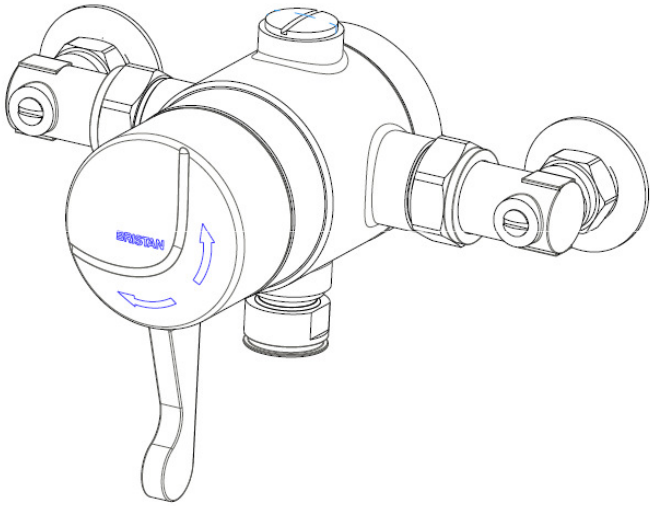
BRISTAN

Installation Instructions and User Guide

Opac Lever Thermostatic Shower Valve



Models covered: OP TS1503 EL C, OP TS1503 CL C, OP TS1503 ISOL C, OP TS1503 SCL C

Please keep this booklet for future Reference.

Installer, when you have read these instructions please ensure you leave them with the user.

Contents

Thank you for choosing Bristan, the UK's leading taps and showers expert. We have designed this product with your enjoyment in mind. To ensure that it works to its full potential, it needs to be fitted correctly. These fitting instructions have been created to give you all of the information you need and, if you need any further help, please do not hesitate to give us a call on 0844 701 6273.

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Important Safety Information

- Please read these instructions thoroughly and retain for future use.
- All products manufactured and supplied by Bristan are safe provided they are installed, used correctly and receive regular maintenance in accordance with these instructions.
- This fitting needs to be installed in accordance with, and meet the requirements of the Water Supply (Water Fittings) Regulations 1999 and Scottish Byelaws 2004.
- **If you are in any doubt about your ability to install this product safely you must employ the services of an experienced qualified plumber.**
- Do not use if the showerhead or shower hose has been damaged or is blocked.
- Do not crush or kink the shower hose, this could damage the hose and cause leaks.
- Remove all packaging and check the components for damage before starting installation.
- ⚠ **Warning:** Before starting any installation please consider the following: Prior to drilling into walls, check that there are no hidden electrical wires, cables or water supply pipes. This can be checked with the aid of an electronic detector.
- If power tools are used do not forget to:
  - Wear eye protection
  - Unplug equipment after use
- The fitting of isolating valves is required as close as is practical to the supply inlet feeds of the thermostatic mixing valve.
- The fitting of strainers is recommended as close as is practical to the water supply inlets of the thermostatic mixing valve.
- ⚠ **Warning:** Before installing the new shower valve it is essential that you thoroughly flush through the pipework in order to remove any remaining swarf, solder, etc. Failure to carry out this procedure could cause problems or damage to the workings of the shower valve.
- This product **must not** be modified in any way as this will invalidate the guarantee.

General Information

This product has been tested to the TMV3 scheme which complies with the BS EN 1287:1999 (LP) and BS EN 1111:1999 (HP) thermostatic mixing valve standards and satisfies the requirements of the Water Supply (Water Fittings) Regulations 1999 and current bylaws.

BS6700 recommends the temperature of stored water should never exceed 65°C. A stored water temperature of 60°C is considered sufficient to meet all normal requirements and will minimise the build up of lime scale in hard water areas (see Map of Hard Water Regions in the UK on page 27).

If the fitting is installed at low pressure (tank fed), then the minimum distance from the highest installed position of the showerhead to the underside of the cold tank should be at least 1 metre to ensure adequate performance.

Note: Nominally equal (balanced) inlet supply pressures are recommended for optimum performance with mixer showers.

This shower valve should be installed in compliance with Water Regulations.

If in doubt, contact a registered plumber or you Local Water Authority or the Secretary of The Institute of Plumbing, address as follows;-

The Institute of Plumbing,
64 Station Lane,
Hornchirch,
Essex, RM12 6NB
Tel: 01708 472791

Recommended Usage			
Domestic	✔	Heavy Commercial	✔
Light Commercial	✔	Health Care	✔

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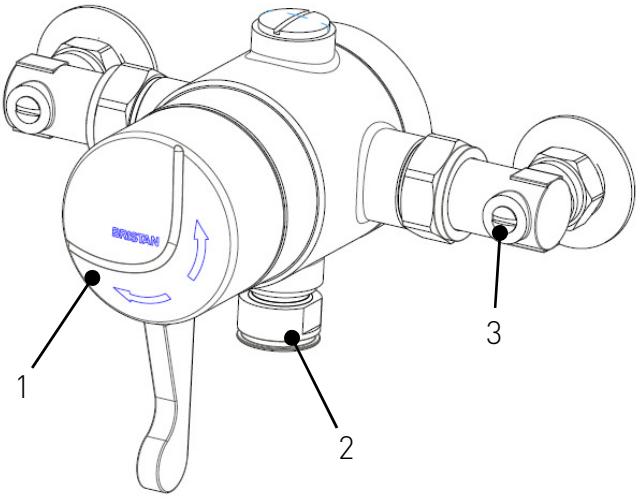
Product Features

1. On/Off and Temperature Control

Turn the control anti-clockwise to turn the shower on and increase the temperature.

Turn the control clockwise to decrease the temperature and to turn the shower off.

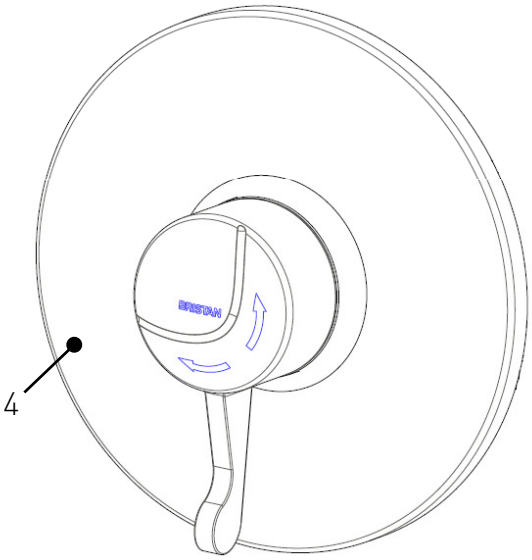


2. Shower Outlet

Connects the shower hose to the shower valve. If the top outlet is to be used, use the blanking plug to blank off the bottom outlet.

3. Isolation Elbows

Designed for ease of maintenance and servicing when the valve in installed in a wall cavity.
Supplied with OP TS1503 ISOL C, OP TS1503 CL C only.

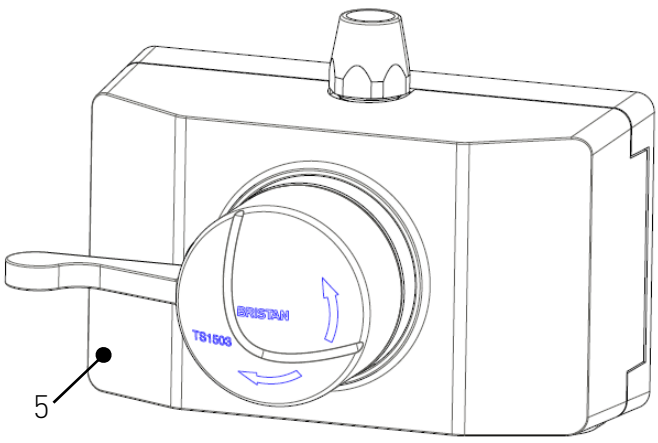


4. Concealing Shroud

Conceals exposed pipework which is shown when the valve is installed in a wall cavity.
Supplied with OP TS1503 CL C model.

5. Protective Shroud

Designed for use in healthcare. The protective shroud ensures a safe surface temperature.
Supplied with OP TS1503 SCL C model.



Specifications

Inlet Connections: 15mm compression connections.
OP TS1503 EL C – 148-158mm adjustable centres.
OP TS1503 CL C – 175mm fixed centres.
OP TS1503 ISOL C – 175mm fixed centres.
OP TS1503 SCL C – 125-132mm adjustable centres.

Outlet Connections: Top or bottom G ½" BSP male 15mm compression adaptor

Operating Pressure Range: Min: 0.1 bar – Max: 5.0 bar – Maximum recommended imbalance between hot and cold supply should not exceed a ratio of 5:1.

Maximum Static Pressure: 10.0 bar

Maximum Outlet Temperature: Factory pre-set to 43ºC (can be re-set to suit site conditions). If the temperature is re-set to suit different site conditions the valve will work adequately however the TMV3 scheme will not apply.

Supply Requirements:
Minimum cold water supply temperature: 5ºC.
Maximum cold water supply temperature: 25ºC.
Maximum hot water supply temperature: 80ºC.
(a maximum hot water supply temperature of 60 – 80ºC is recommended for ablutionary purposes).

Note: The inlet hot water temperature must be at least 10ºC above the required blend temperature (e.g. shower temperature 43ºC: minimum hot supply 53ºC.

Performance: (Open Outlet)
Flow Rates are in litres per minute at equal pressures

Pressure (bar)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0	3.0	4.0	5.0
Flow Rate	8.0	12	17	22	26	29	36	42	52	60	66

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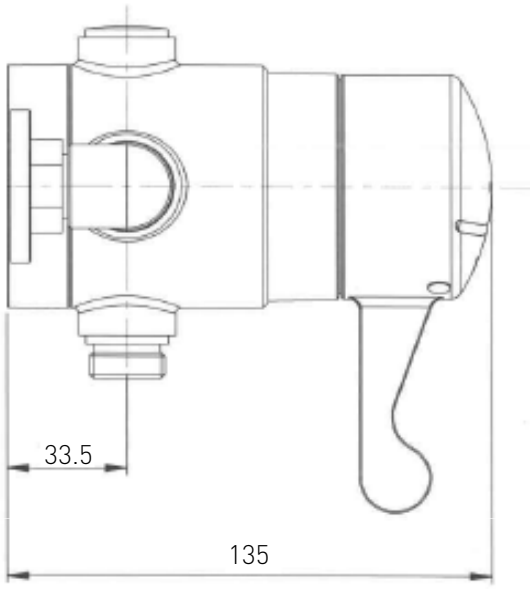
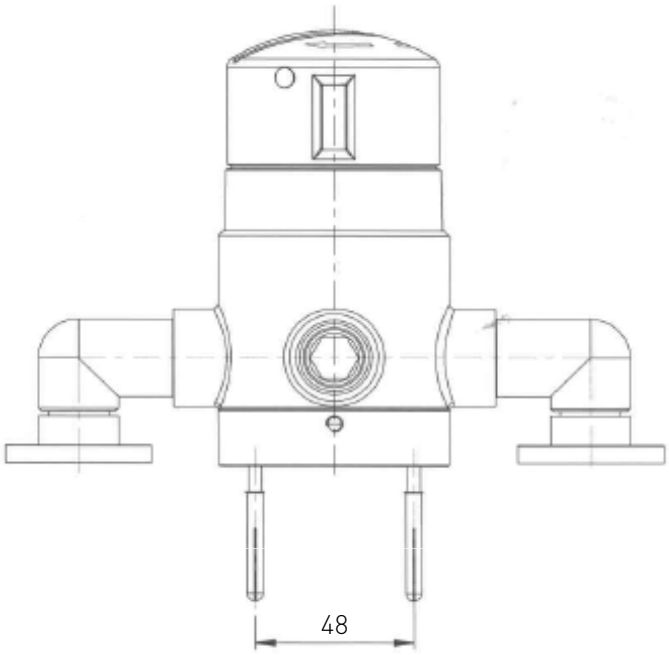
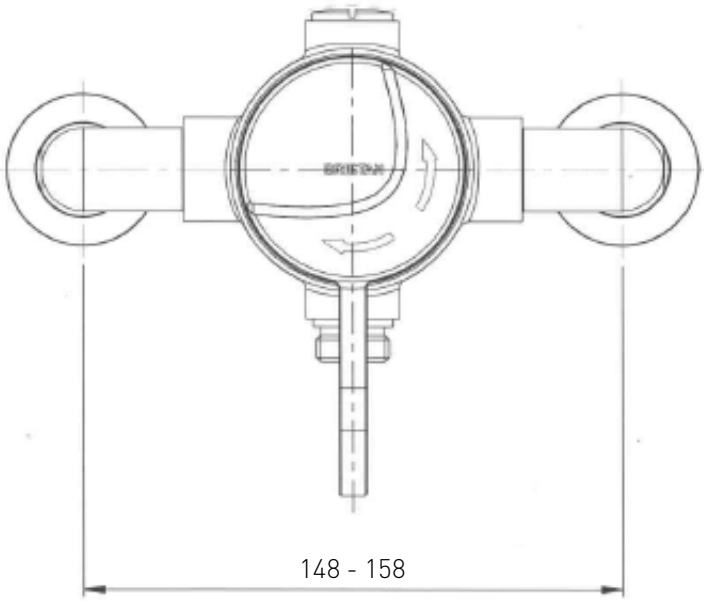
Dimensions (mm's)

OP TS1503 EL C (Surface Mounted)

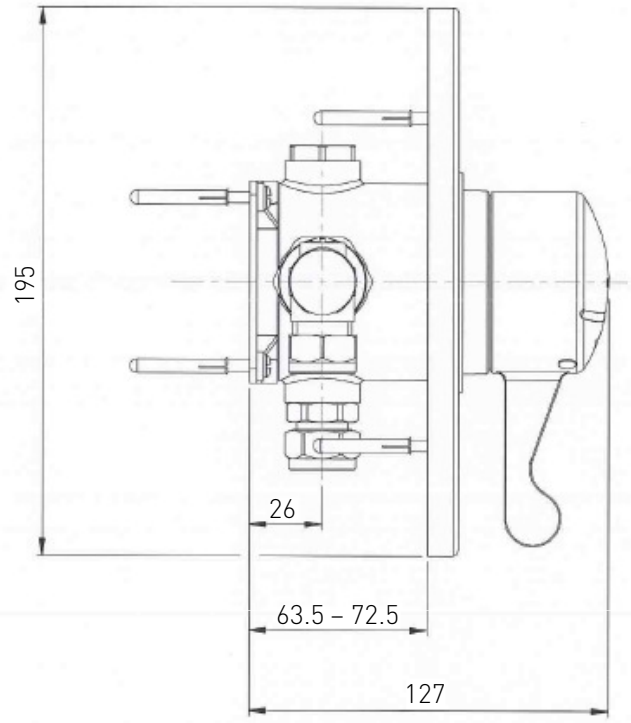


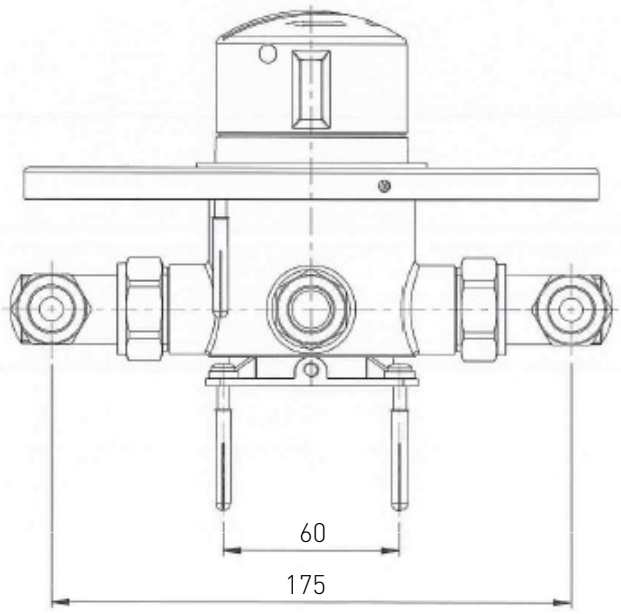




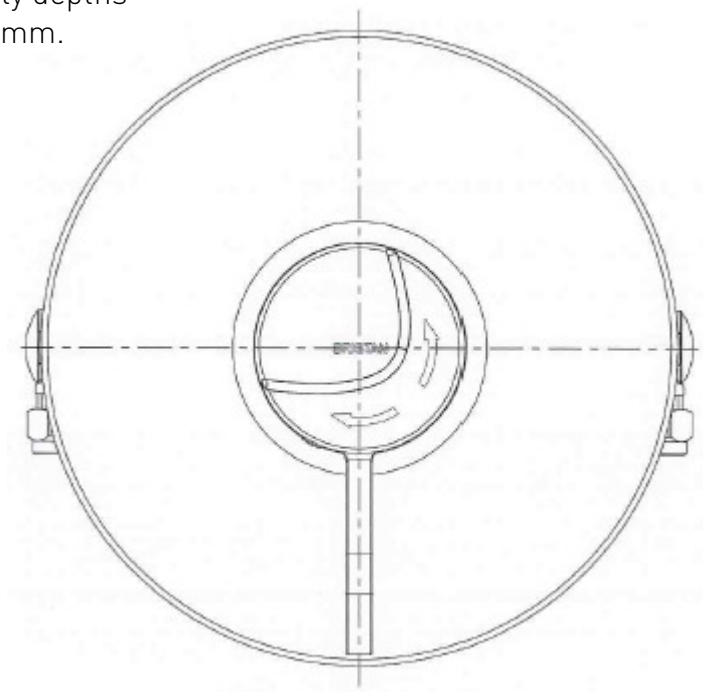
Dimensions (mm's)

OP TS1503 CL C (Concealed Model)





Suitable for wall cavity depths
of between 63.5-72.5mm.



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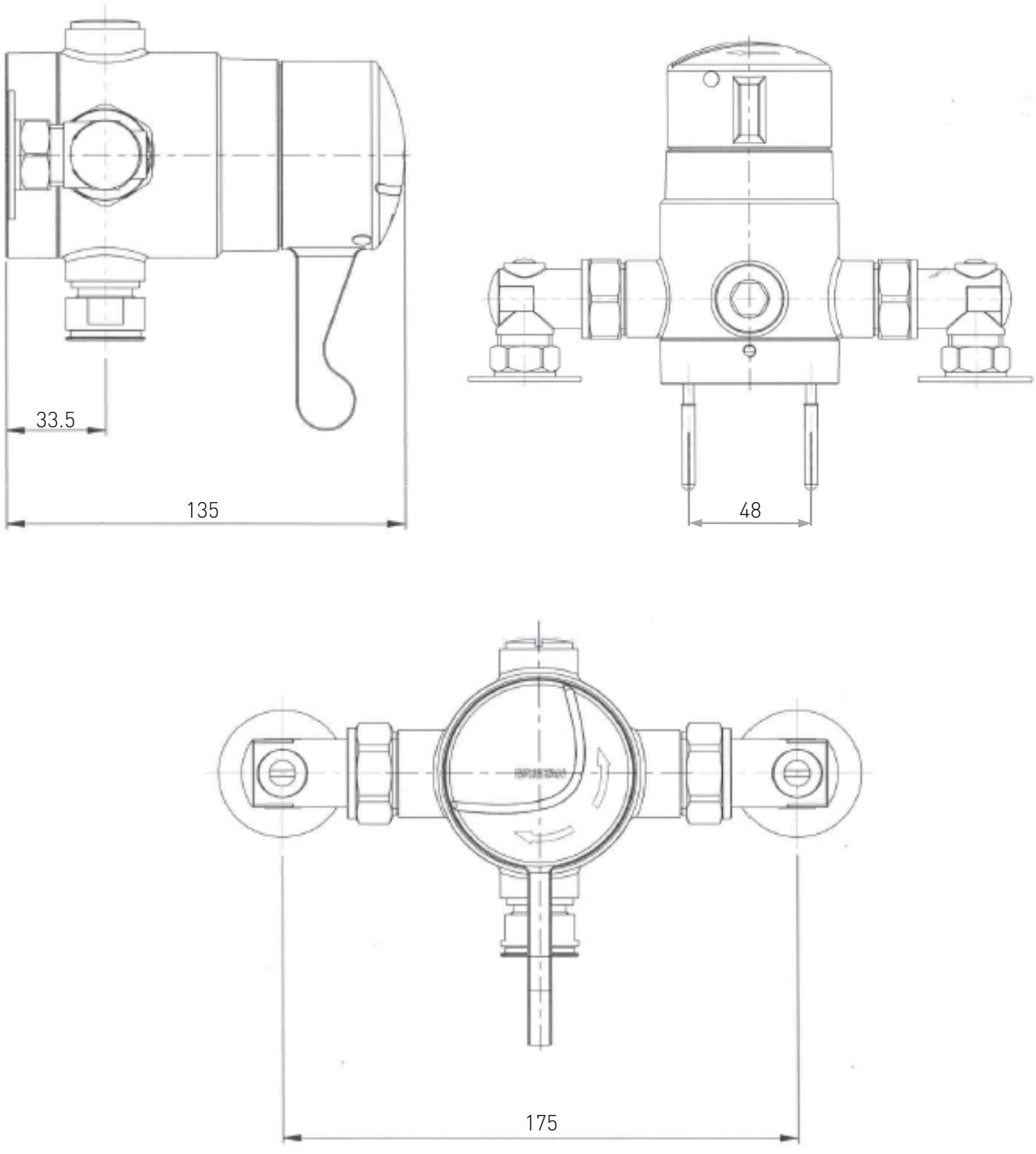
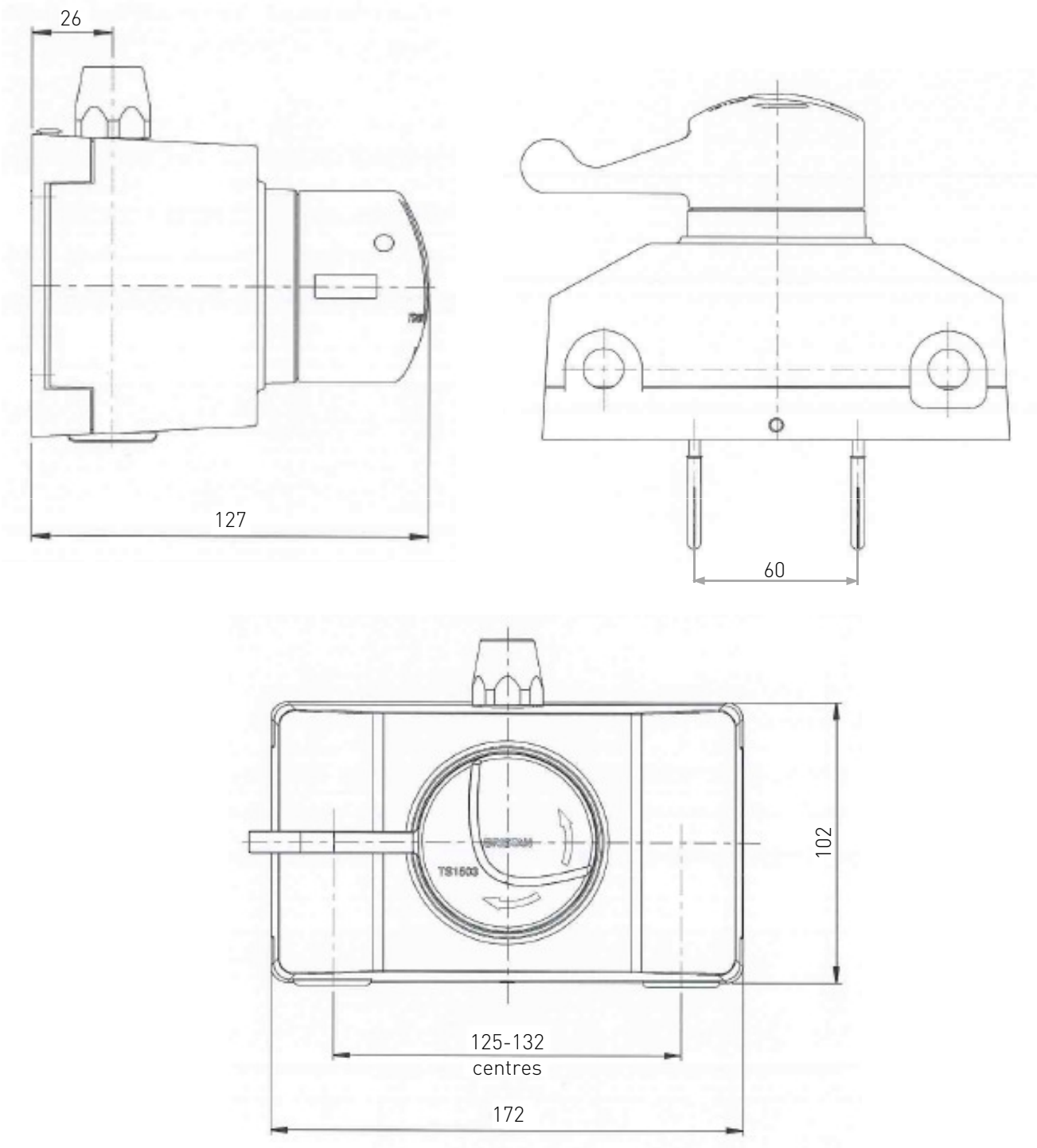
Dimensions (mm's)

OP TS1503 ISOL C



Dimensions (mm's)

OP TS1503 SCL C



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Installation Requirements

These fittings need to be installed in accordance with the following Installation Requirements and Notes (IRN) to ensure they meet the requirements of the Water Supply (Water Fittings) Regulations 1999 and the Scottish Byelaws 2004.

IRN R001: See text of entry for Installation Requirements or Notes.

IRN R040 - Schedule 2-15 (1): The fitting shall be installed so that its outlet discharges above the spill-over level of any fixed appliance as indicated below:-

For backflow protection in domestic or installations up to, and including, Fluid Category 3.

If the fitting cannot be installed as indicated in the table opposite it shall be installed as either **a** or **b** below:

a: with an approved double check valve assembly or some other no less effective backflow prevention device immediately upstream of the inlet.

b: so that it draws water by gravity only from a cistern, or cylinder having a permanently open vent pipe, and the distributing pipe supplies no other fitting (other than draining tap) at a lower level.

For backflow protection in premises or installations up to, and including Fluid Category 5.

The vertical distance of the outlet above the spill-over level shall be not less than 20mm or twice the diameter of the inlet pipe to the fitting, which ever is the greater. If the fitting cannot be installed as indicated it shall be installed with a backflow prevention arrangement suitable for the Fluid Category.

Size of tap or combination fitting.	Vertical distance of outlet above spill-over level.
1. Not exceeding 1/2 in	20mm
2. Exceeding 1/2 in but not exceeding 3/4 in	25mm
3. Exceeding 3/4 in	70mm

Installation Requirements

Conditions of use for Type 3 (Thermostatic mixer) valves

In order to give compliance with N.H.S. specification DO8 the table below lists the conditions for normal use. These valves will perform adequately outside these parameters, however they cannot be guaranteed by the scheme to operate as Type 3 valves. If they are required to work with other supply conditions an engineer must carry out a risk assessment and satisfy themselves that the valves are suitable for use.

Normal Conditions of Use for Type 3 valves

	High Pressure	Low Pressure
Maximum Static Pressure (Bar)	10	10
Flow Pressure, Hot & Cold (Bar)	0.5 to 5.0	0.1 to 1.0
Hot Supply Temperature (°C)	55 to 65	55 to 65
Cold Supply Temperature (°C)	Equal to or Less than 25	Equal to or Less than 25
Minimum Temperature Differential °C	10°C	10°C

This valve has been approved for use in the following designations.

Code	Operating Pressure	Application
HP - B	High Pressure	Bidet
HP – S	High Pressure	Shower
HP – W	High Pressure	Wash Basin
LP – B	Low Pressure	Bidet
LP – S	Low Pressure	Shower
LP – W	Low Pressure	Wash Basin

Key:

HP - High Pressure LP - Low Pressure

The BuildCert TMV scheme recommends the following set maximum mixed water outlet temperatures for use in all premises:

44°C for Bath fill but see notes below;

41°C for showers;

41°C for Washbasins;

38°C for Bidets.

The mixed water temperatures must never exceed 46°C.

The maximum mixed water temperature can be 2°C above the recommended maximum set outlet temperatures.

Note: For wash basins, washing under running water is assumed.

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Flow Regulators

<table>
<tr><th rowspan="2">Cold Supply</th><th rowspan="2">Hot Supply</th><th colspan="2">Fit to Elbows</th><th rowspan="2">Comments</th></tr>
<tr><th>Cold</th><th>Hot</th></tr>
<tr><td>0.1 to 1.0bar (1 to 10 MTR HEAD)</td><td>0.1-1.0 bar (1-10 MTR HEAD)</td><td>Nothing</td><td>Nothing</td><td>Max ratio of Hot – Cold pressure 1:5 / 5:1</td></tr>
<tr><td>1.0 to 5.0 bar (10-50 MTR HEAD)</td><td>1.0 -5.0 bar (10-50 MTR HEAD)</td><td>Green 7 Litre Limiter</td><td>Yellow 5 Litre Limiter</td><td>This arrangement will also suit pumped systems #</td></tr>
<tr><td rowspan="8">Mains (1.5 – 10 bar)</td><td>Gravity 0.1-0.2 bar (1-2 MTR HEAD)</td><td>White Orifice (No washer required)</td><td>Nothing</td><td rowspan="5"></td></tr>
<tr><td>Gravity 0.2-0.5 bar (2-5 MTR HEAD)</td><td>Green 7 Litre Limiter</td><td>Nothing</td></tr>
<tr><td>Gravity 0.5 bar + (5 MTR HEAD</td><td rowspan="2">Green 7 Litre Limiter</td><td rowspan="2">Yellow 5 Litre Limiter</td></tr>
<tr><td>Unvented hot water storage system (shower coil)</td></tr>
<tr><td>Combi – boiler (Instantaneous water heater</td><td>Green 7 Litre Limiter</td><td>Yellow 5 Litre Limiter *</td><td>Adjust Bottom Cap **(1/2 turn anti-clockwise)</td></tr>
<tr><td>Electric Unvented *** Instantaneous Heated</td><td>Yellow 5 Litre Limiter</td><td>Nothing</td><td>Adjust Bottom Cap** (1/2 turn anti-clockwise)</td></tr>
<tr><td>Any vented (open outlet) heater, gas or electric, e.g. ‘normal’ electric shower</td><td colspan="3">Do not use with mixer valves – This would be extremely dangerous</td></tr>
</table>

Flow Regulators

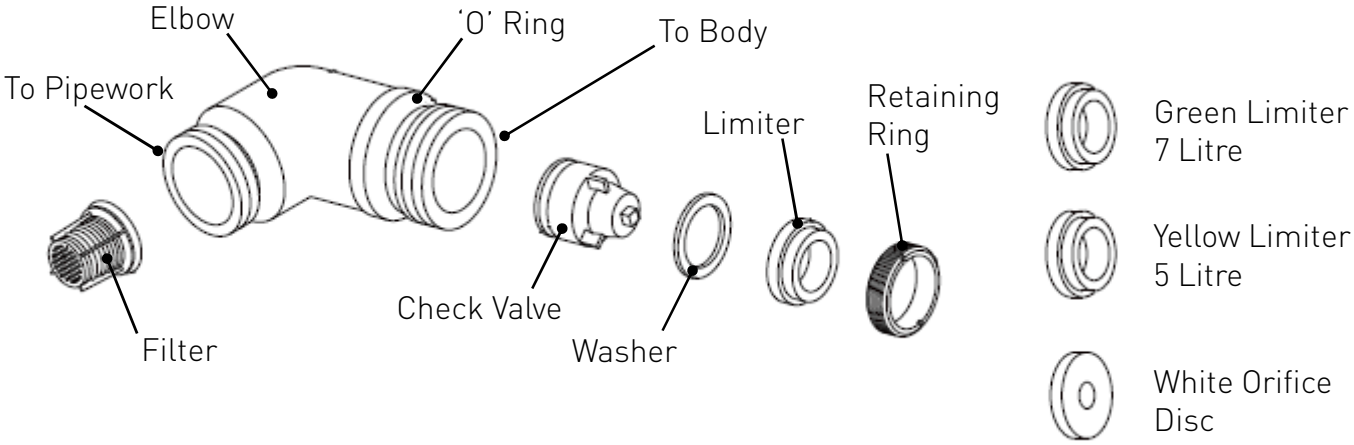
The table on page 13 shows the flow regulator requirements and valve adjustments for various hot / cold supplies.

Flow limiters are fitted and will be required to be removed when installed in low pressure (gravity fed) applications below 1.0 bar. To remove: unscrew the retaining ring and remove limiter and washer. Re-fit elbows back to the body.

* With certain permutations of combi-boiler hot supply and cold supply, it must not be necessary to fit the yellow 5 litre flow limiter.

** The bottom cap is factory set at 3/4 turn from the fully closed position. Only adjust if instructed to do so in the table on page 13 or when fitting a replacement cartridge assembly. (See maintenance section

*** ⚠ **Important**: It is a requirement of Instantaneous Electric Water Heaters that a stable flow of water passes through the heater. This requirement can be satisfied by using a flow stabiliser in the supply to the heater. It should be adjusted to give a flow temperature of 45-50ºC from the heater.



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Installation

OP TS1503 EH C, OP TS1503 ISOL C

Before Installation

Flush through the pipework to ensure removal of debris. Turn off the mains water supply and close any isolating valves.

1. Inlet positions

The shower valve has three inlet positions – top, bottom and rear. Rotate the inlet elbows as required.

With the elbows screwed fully against the valve body it can be unscrewed a maximum of 1.5 turns to allow for lateral tolerance.

Sufficient 15mm diameter supply pipes should protrude through the finished wall surface to fit fully into the shower valve elbows.

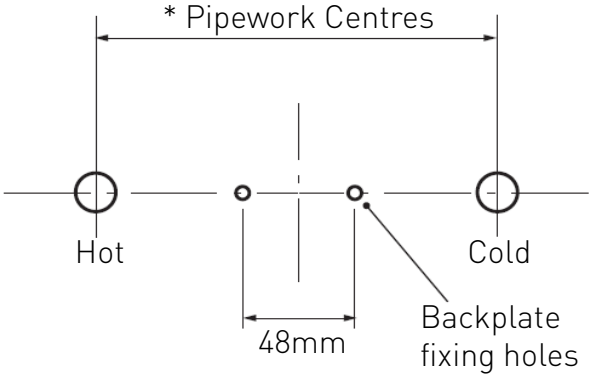
2. Attach backplate to wall

Loosen the 'backplate' grub screw on the backplate using a hexagonal key.
Use the backplate as a template and mark the centres of the fixing holes onto the wall.

Warning: Please check for any hidden pipes and cables before drilling holes in the wall.

Drill suitable holes and insert the wall plugs. Securely attach the backplate to the wall using the screws provided.

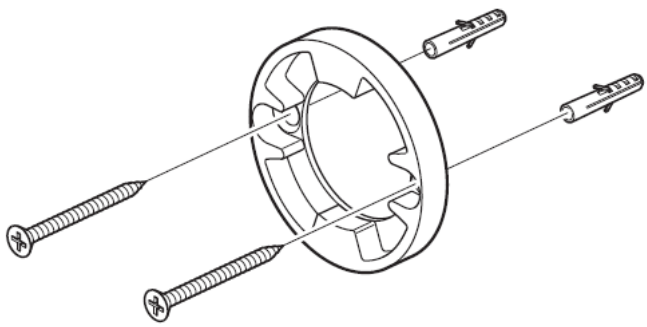
Important: Water supplies to the mixer must be with hot on the left and cold on the right when views from the front.



*The pipework centres differ on both Models.

OP TS1503 EH C – Adjustable between 148-158mm

OP TS1503 ISOL C – Fixed centres of 170mm



Installation cont.

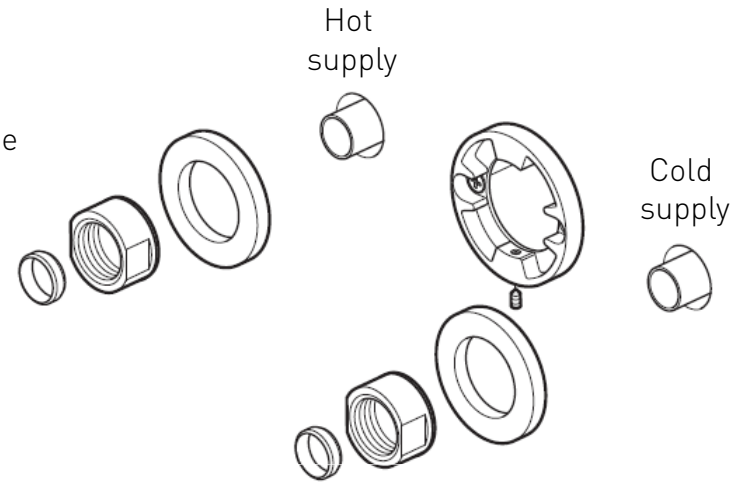
OP TS1503 EH C, OP TS1503 ISOL C continued

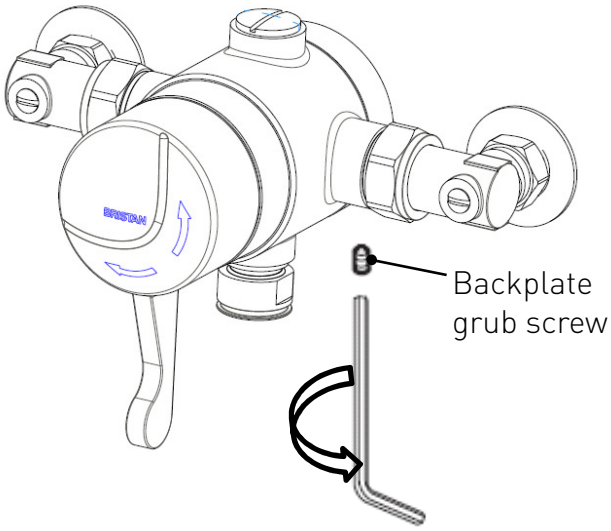
3. Attach shower valve

Place the shrouds over the water supply pipes. Insert the 15mm hot and cold water supply pipes into the inlet connections and tighten the nuts. Ensure the olives and filter are in place.

Secure the shower valve to the backplate by tightening the backplate grub screw.

Re-attach the shower valve to the backplate by tightening the grub screw.





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Installation cont.

OP TS1503 CL C (Concealed)

Before Installation

Flush through the pipework to ensure removal of debris. Turn off the mains water supply and close any isolating valves.

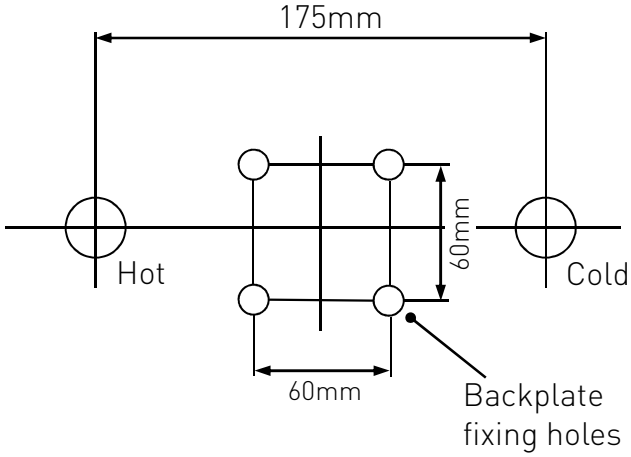
Important: It is essential when installing this shower valve full access is made available for future servicing purposes.

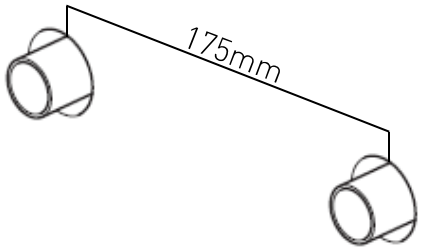
1. Inlet positions

The shower valve has three inlet positions – top, bottom and rear. Rotate the inlet elbows as required.

Once the required position of the inlet supply has been identified sufficient 15mm diameter supply pipes should protrude through the finished wall surface with 175mm between centres to fit fully into the shower valve elbows.

Important: Water supplies to the mixer must be with hot on the left and cold on the right when views from the front.



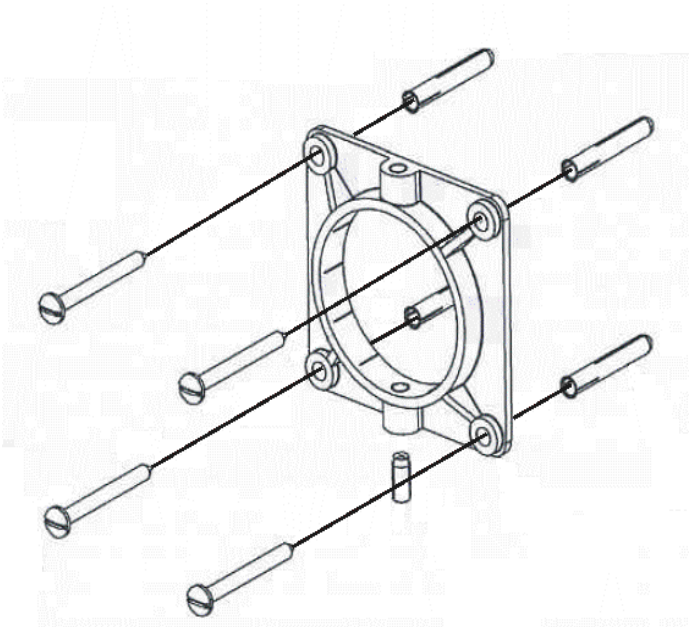


2. Attach backplate to wall

Using the backplate as a template mark the centres of the fixing holes onto the wall.

Warning: Please check for any hidden pipes and cables before drilling holes in the wall.

Drill suitable holes and insert the wall plugs. Securely attach the backplate to the wall using the screws provided.



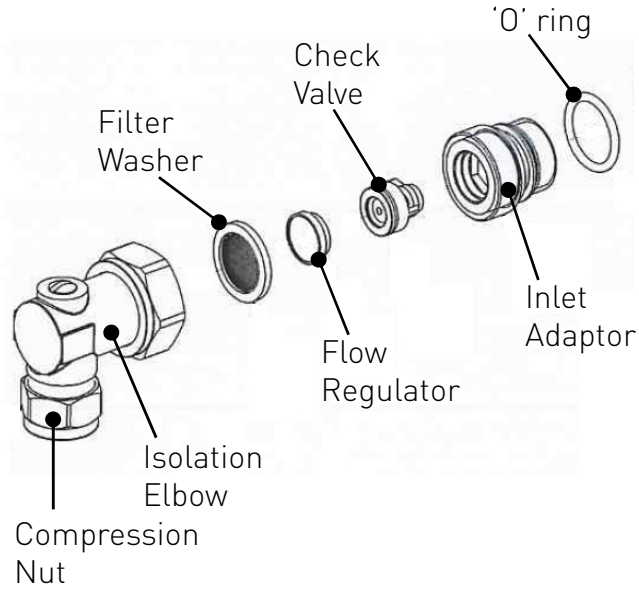
Installation cont.

OP TS1503 CL C (Concealed) continued.

3. Attach isolation elbows to mixer valve

This valve is supplied with isolation elbows which need to be fitted as shown opposite.

With the elbows screwed fully against the valve body it can be unscrewed a maximum of 1.5 turns to allow for lateral tolerance.



4. Attach the shower valve

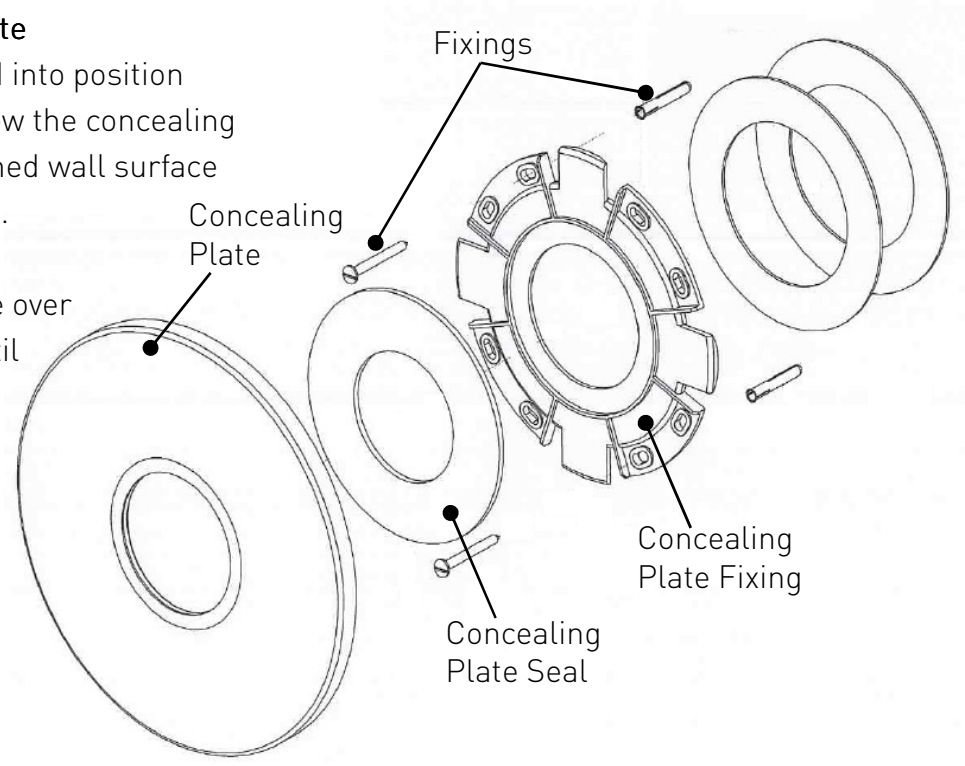
Insert the 15mm hot and cold water supply pipes into the inlet connections and tighten the nuts. Ensure the olives and filter are in place.

Secure the shower valve to the backplate by tightening the backplate grub screw.

5. Fit the concealing plate

Once the valve is installed into position within the wall cavity screw the concealing plate fixing onto the finished wall surface using the fixings supplied.

Slide the concealing plate over the sleeve of the valve until firmly against the wall surface ensuring the concealing seal is fitted between the concealing plate and the concealing plate fixing.



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Installation cont.

OP TS1503 SCL C

Before Installation

Flush through the pipework to ensure removal of debris. Turn off the mains water supply and close any isolating valves.

1. Inlet positions

The shower valve has three inlet positions – top, bottom and rear. Rotate the inlet elbows as required.

With the elbows screwed fully against the valve body it can be unscrewed a maximum of 1.5 turns to allow for lateral tolerance.

Sufficient 15mm diameter supply pipes should protrude through the finished wall surface to fit fully into the shower valve elbows.

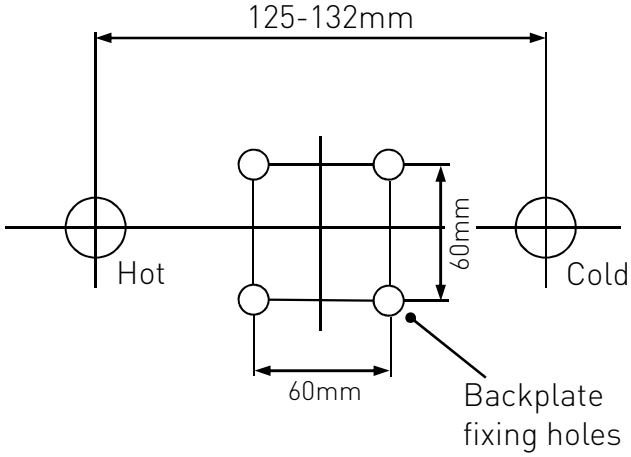
2. Attach backplate cover to wall

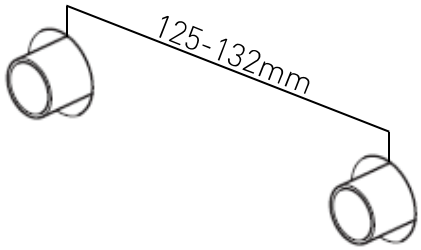
Remove the 'backplate cover' from the shroud using a hexagonal key.
Use the backplate cover as a template and mark the centres of the fixing holes onto the wall.

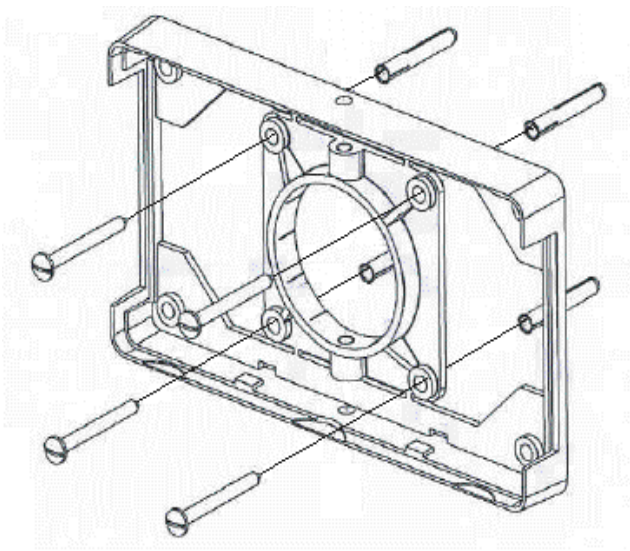
Warning: Please check for any hidden pipes and cables before drilling holes in the wall.

Drill suitable holes and insert the wall plugs. Securely attach the backplate to the wall using the screws provided.

Important: Water supplies to the mixer must be with hot on the left and cold on the right when views from the front.





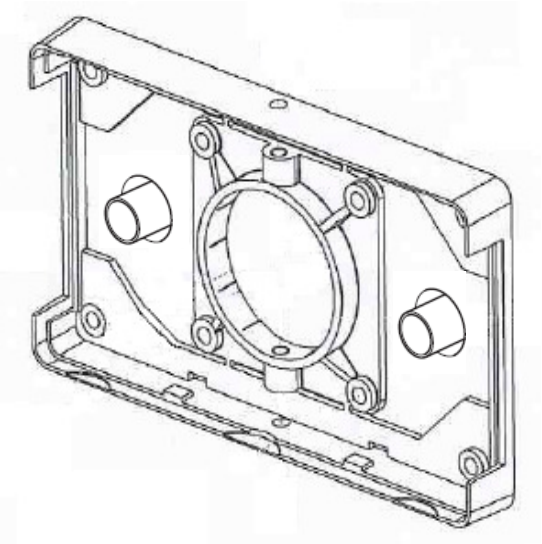


Installation cont.

OP TS1503 SCL C continued

3. Attach shower valve to backplate cover

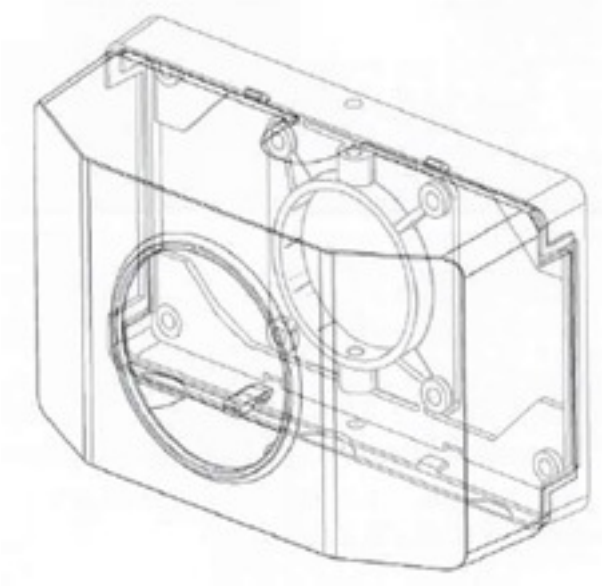
Insert the 15mm hot and cold water supply pipes into the inlet connections and tighten the nuts. Ensure the olives and filter are in place.



4. Fit the cover shroud

Slide the cover shroud over the shower valve and push onto the backplate cover until it clips into place.

Note: The lever handle may need to be removed from the shower valve in order to push the cover shroud into position.



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Operation & Temperature Setting

On/Off and Temperature Control

Turn the control (1) anti-clockwise to turn on and increase the temperature.

Turn the control (1) clockwise to decrease the temperature and turn off.

The maximum temperature is factory set to 43ºC however this can be adjusted to suit different site conditions (see below to re-set maximum temperature setting).

Maximum Temperature Setting

The maximum blend temperature should be limited to ensure that no undesirable temperature is obtained. If adjustment is necessary the following should be carried out:

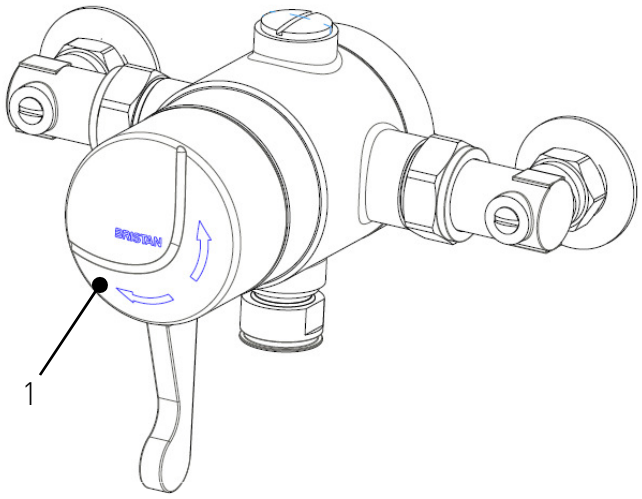
• Turn the control knob anti-clockwise so the shower is running at full flow and is at the maximum temperature (allow the flow/temperature to stablise for afew minutes).

• Remove the handle by prising out the cap and removing the grub screw.

• Slide a 2.5mm hexagonal key down through the centre of the spindle and turn the adjusting screw anti-clockwise for a warmer temperature and clockwise for a cooler temperature.

• When the desired maximum temperature is achieved replace the control knob, tighten the grub screw and push fit the cap back into the handle.

OP TS1503 ISOL C shown below



Commissioning

Commissioning notes for Thermostatic Mixing Valves

The first step in commissioning a thermostatic mixing valve is to check the following:

1. The designation of the thermostatic mixing valve matches the intended application.

2. The supply pressures are within the range of operating pressures for the designation of the valve.

3. The supply temperatures are within the range permitted for the valve and by guidance information on the prevention of legionella etc.

4. Isolating valves (and strainers preferred) are provided.

If all these conditions are met, proceed to set the temperature as stipulated in the maintenance section.

The mixed water temperature at the terminal fitting must never exceed 46ºC.

It is a requirement that all TMV3 approved valves shall be verified against the original set temperature results once a year. When commissioning / testing is due the following performance checks shall be carried out:

- Measure the mixed water temperature at the outlet.

- Carry out the cold water supply isolation test by isolating the cold water supply to the TMV (Thermostatic Mixer Valve), wait for five seconds, if the water is still flowing check that the temperature is below 46ºC.

If there is no significant change to the set temperature (+/-2ºC or less change from the original settings) and the fail-safe shut off is functioning, then the valve is working correctly and no further service work is required.

Notes: If there is a residual flow during the commissioning or the annual verification (cold water supply isolation test), then this is acceptable providing the temperature of the water seeping from the valve is no more that 2ºC above the designated maximum mixed water outlet temperature setting of the valve.

Temperature readings should be taken at the normal flow rate after allowing for the system to stabilise.

The sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Any TMV that has been adjusted or serviced must be re-commissioned and re-tested in accordance with the instructions in the maintenance section.

The installation of thermostatic mixing valves must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999.

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In Service Testing

Purpose

The purpose of in service tests is to regularly monitor and record the performance of the thermostatic mixing valve.

Deterioration in performance can indicate the need for service work on the valve and / or water supplies.

Procedure

Using the same measuring equipment or equipment to the same specification as used in the commissioning section, adjust the temperature of the mixed water in accordance with the manufactures instructions and the requirement of the application. Carry out the following sequence:

a) Record the temperature of the hot and cold water supplies.

b) Record the temperature of the mixed water at the largest draw-off flow rate.

c) Record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured.

If the mixed water temperature has changed significantly from the previous test results (e.g.>1 K) , record the change and before re-adjusting the mixed water temperature check:

a) That any in-line or integral strainers are clean.

b) Any in-line or integral check valves or other anti-back siphonage devises are in good working order.

c) Any isolating valves are fully open.

With an acceptable mixed water temperature, complete the following procedure:

a) Record the temperature of the hot and cold water supplies.

b) Record the temperature of the mixed water at the largest draw-off flow rate

c) Record the temperature of the mixed water at a smaller draw-off flow rate, which shall be measured.

d) Isolate the cold water supply to the mixing valve and monitor the mixed water temperature.

e) Record the maximum temperature achieved as a result of (d) and the final stabilised temperature.

f) Record the equipment, thermometer etc. used for the measurements.

If at step (e) the final mixed water temperature is greater than the values in table 17 and / or the maximum temperature exceeds the corresponding value from the previous results by more than about 2 K, the need for service work is indicated.

Note: In-service tests should be carried out with a frequency, which identifies a need for service work before an unsafe water temperature can result. In the absence of any other instruction or guidance, the procedure described in Annex F of D 08 may be used.

In Service Testing cont.

Annex F of D 08 (informative)

Frequency of in-service tests

General

In the absence of any other instruction or guidance on the means of determining the appropriate frequency of in-service testing, the following procedure may be used:

a) 6 to 8 weeks after commissioning carry out the tests in 'In-Service Tests'.

b) 12 to 15 weeks after commissioning carry out the tests detailed in 'In-Service Tests'.

Depending on the results of the above tests, several possibilities exist:

a) If no significant changes (e.g. < 1 K) in mixed water temperatures are recorded between commissioning and 6 to 8 week testing, or between commissioning and 12 to 15 week testing the next in-service test can be deferred to 24 to 28 weeks after commissioning.

b) If small changes (e.g. 1 to 2 K) in mixed water temperatures are recorded in only on of these periods, necessitating adjustment of the mixed water temperature, then the next in-service test can be deferred to 24 to 28 weeks after commissioning.

c) If small changes (e.g. 1 to 2 K) in mixed water temperatures are recorded in both of these periods, necessitating adjustment of the mixed water temperature, then the next in-service test should be carried out at 18 to 21 weeks after commissioning.

d) If significant changes (e.g. > 2 K) in mixed water temperatures are recorded in either of these periods, necessitating service work, then the next in-service test should be carried out at 18 to 21 weeks after commissioning.

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Maintenance

General Cleaning

Your fitting has a high quality finish and should be treated with care to preserve the visible surfaces. All finishes will wear if not cleaned correctly. The only safe way to clean your product is to wipe with a soft damp cloth. Stains can be removed using washing up liquid. All bathroom cleaning products (powders and liquids) will damage the surface of your fitting, even the non-scratch cleaners.

Note: Never use abrasive detergents or disinfectants or those containing alcohol, hydrochloric acid or phosphoric acid.

Bristan recommend E-cloth for cleaning all of our bathroom & kitchen products. Using just water, E-cloth gives a smear free, deep clean by breaking up and hold dirt, which normal cloths leave behind. Order through your Bristan stockist (order code: ECLOTH).

Servicing

If your thermostatic mixer valve fails to operate correctly it could be the result of an incorrect installation. Please refer to the installation section & site requirements.

If the valve has operated correctly for some time, but no longer performs acceptably, you may find it useful to firstly refer to the fault diagnosis in the Troubleshooting section.

Should the valve require servicing the following procedure should be followed.

• Isolate both hot and cold supplies to the shower valve by either:

• Turning the water supply off at the mains stop cock or

• Turning off the isolation valves to the shower valve.

• Prise out the cap from the handle. Loosen the grub screw and pull the handle off.

• Remove the concealing shroud (concealed model only).

• Remove the retaining ring by pulling it off from the exposed cartridge head and remove the Sleeve.

• Unscrew the cartridge using a suitable spanner and remove from the valve body ensuring the piston and thermostat assembly is also removed from the body.

• Unscrew the half cartridge (bottom section of the cartridge) by inserting a flat tool into the slots and a suitable spanner onto the hexagonal part of the cartridge head and unscrew. The half cartridge has a standard right hand thread.

• Remove circlip and push out spindle assembly.

• Remove all 'O' rings and washers from spindle assembly, unscrew spindle (left hand thread) and remove adjusting screw from the spindle housing, noting the approximate number of turns to release.

Maintenance cont.

• Soak all metal parts in a 50/50 solution of hot water and white vinegar and allow to soak for a couple of hours, If heavily scaled allow to soak overnight.

• Replace all 'O' rings and seals. A maintenance kit is available for your mixer valve.

Please visit: www.bristan.com/sparesfinder in order to find spare parts for this product.

• Only use a silicone based grease on all 'O' rings and seals (light smear only) and on the thread of the spindle and spindle housing.

Re-Assembly

• Add P.T.F.E washer to spindle from the splined end, then the 'O' ring. The spindle is then screwed into the spindle housing. Locate this new assembly into the head and fit the circlip. Please note that the circlip does not locate on the groove immediately beneath the splines but locates on the next one down towards the threaded end.

• Screw the head assembly onto the half cartridge and tighten fully by inserting flat tool into the slots and use a suitable spanner on the hexagonal part of the head to tighten.

• Place the thermostat into the piston and place the spring into the recess in the bottom of the piston and distributor assembly (use a dab of grease to retain the spring in place).

•Offer the piston assembly up to the cartridge assembly ensuring that the thermostat is located in the centre of the piston with the black wax end facing out into the centre of the cartridge assembly.

• Screw the complete assembly into the valve body and tighten. Do not adjust the bottom cap unless you are installing a new cartridge. If this is the case, screw the bottom cap fully clockwise until it stops , then unscrew anti-clockwise 3/4 turn only and then refer to the Flow Regulator table on page 13 to see if any further adjustments are required for your particular system.

• Replace sleeve, retaining ring and the control knob and refer to maximum temperature setting on page 21.

• After re-setting your desired maximum outlet temperature replace the handle, tighten the grub screw and push fit the cap back onto the handle.

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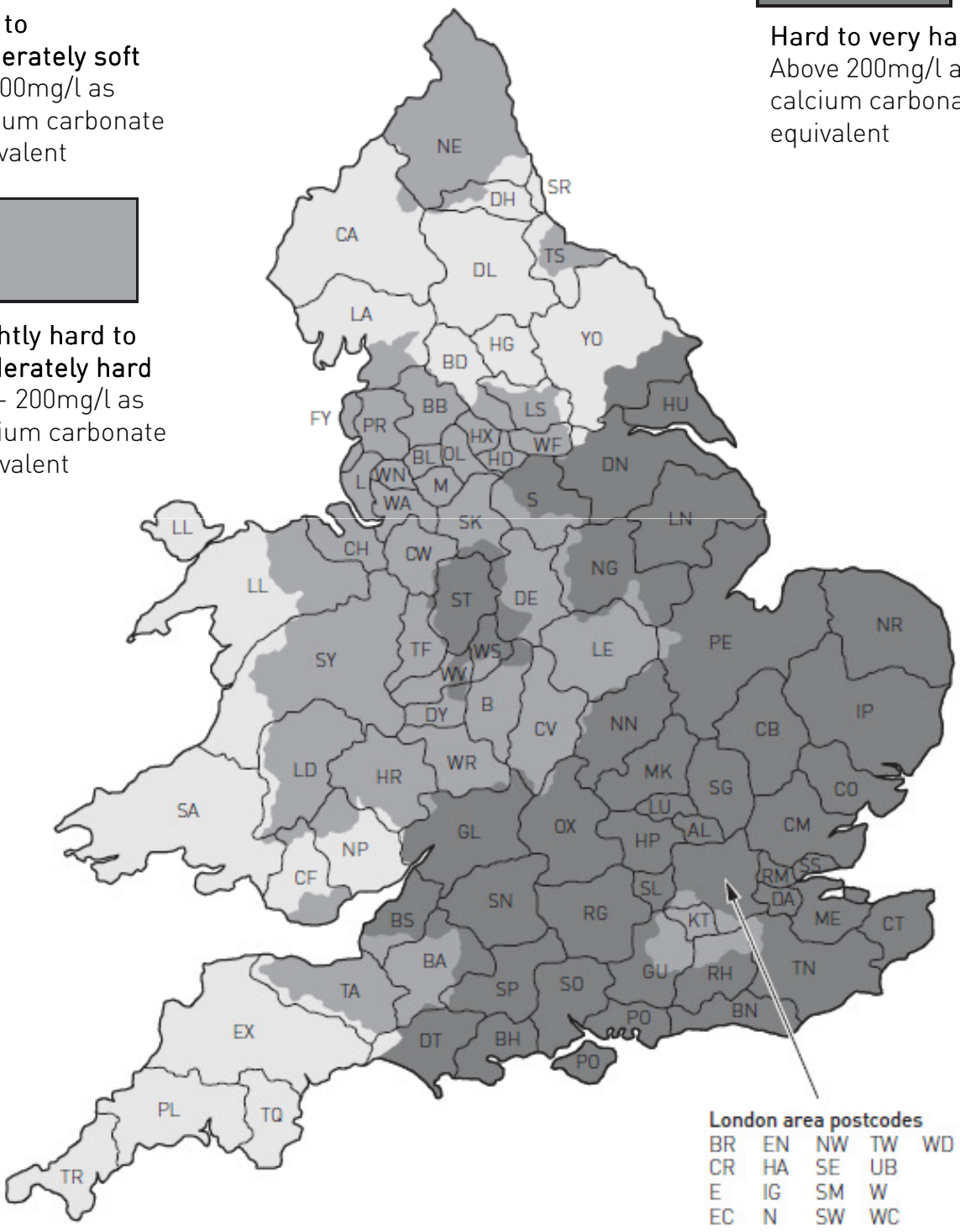
Hard Water Regions in the UK

Soft to moderately soft
0 - 100mg/l as calcium carbonate equivalent

Slightly hard to moderately hard
100 - 200mg/l as calcium carbonate equivalent

Hard to very hard
Above 200mg/l as calcium carbonate equivalent



Troubleshooting

Symptom	Cause	Remedy
Maximum water temperature too hot or cold	Maximum water temperature set incorrectly.	Reset maximum water temperature. Refer to 'Maximum Temperature Setting' in Commissioning section (page 22) and 'Adjusting the Temperature' in Operation & Temperature setting section (page 21)
Outlet water temperature too hot / cold.	Inlet filter is partially blocked.	Check insert filters for any blockages and clean as necessary.
	Installation conditions outside operating parameters.	Refer to Installation Requirements section (page 11-12). Service shower valve as recommended. Refer to Maintenance section (pages 25-26) Refer to Operation & Temperature Setting section (page 21).
Water temperature too cold – maximum water temperature incorrectly set.	Hot water temperature is less than 10°C above the required blend temperature.	Adjust hot water temperature or wait for water system to reheat if stored system is used.
	Instantaneous water heater not igniting because water flow rate is too low.	Increase water flow rate through the system. Check cartridge inlet filters and clean or replace. Refer to Maintenance section (pages 25-26). Contact the boiler manufacturer.
	Instantaneous water heater not igniting because water pressure is too low.	Increase water pressure through system. Contact the boiler manufacturer.
Only hot or cold water from shower valve outlet.	Inlet water supplies are reversed (hot to cold supply).	Check the connections are the correct way round. Hot on the left and cold on the right when viewed from the front. Rework pipework as necessary.
	Inlet filter is partially blocked.	Clean or replace, flush through pipework before refitting.

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Troubleshooting

Symptom	Cause	Remedy
No flow when shower is turned on.	Inlet filter is partially blocked.	Check insert filters for any blockages and clean as necessary.
	Blocked or damaged check valve.	Remove check valve and clean / replace if necessary.
	Air block in either / both supplies	Flush through supply pipework.
	Piston sticking	Remove thermostatic cartridge and piston. Service shower valve. Refer to Maintenance section (pages 25-26).
Pulsating flow and / or varying temperature.	Air block in either / both supplies	Flush through supply pipework.
	Incorrect use of flow regulators	Check and remove / replace if necessary.
Flow rate too great	Flow regulators not fitted.	Fit flow regulators.
Shower valve will not shut off.	Thermostatic cartridge not shutting off fully.	Service shower valve. Refer to Maintenance section (pages 25-26)
Fail safe not working.	Shower valve requires commissioning.	Refer to Commissioning section (page 18).

Guarantee

Bristan offers solid guarantees to provide you with complete peace of mind.

Taps and Mixers
5 year parts and 1 year labour*.
Gold, painted and special finishes
3 years parts only.

All subject to proof of purchase.

Mixer Shower Valves
1 year parts. 1 year labour* (subject to registration), or 1 year with proof of purchase.

Gold, painted and special finishes 3 years parts only.

Pumps and Power Showers
2 year parts. 1 year labour* (subject to registration).

Electric Showers/Instantaneous Water Heaters
2 year parts. 1 year labour* (subject to registration).

Accessories
5 year parts only. Includes bathrooms accessories, shower accessories (e.g. hoses, handsets and poles), wastes, WC levers and light pulls. Gold, painted and special finishes 3 years parts only.

Sanitaryware
5 year parts only. Subject to proof of purchase.

Shower Enclosures and Shower Trays
10 year parts (subject to registration), or 2 years with proof of purchase. 1 year labour* (subject to registration), or 1 year with proof of purchase.

Heated Towel Rails
5 year parts only. Gold, painted and special finishes 3 years parts only. All subject to proof of purchase.

*Labour provided by an approved Bristan engineer. Guarantee only applies to products with a manufacturing fault. A deferred payment will be necessary in order to secure any visits by our engineers which will be charged if the problem is found **not** to be a manufacturing fault. If the fault is found to be down to a manufacturing error, the payment will be released and not charged.

This guarantee applies to products purchased within the United Kingdom or Republic of Ireland, but does not apply to products used commercially.

The guarantee is only available to original purchasers who have proof of purchase.

The installation must allow ready access to all products for the purpose of inspection, maintenance or replacement.

Any part found to be defective during the above guarantee period will be replaced without charge, providing that the product has been installed in accordance with the instructions, used as intended, and regularly serviced.

Servicing should be carried out at regular intervals of no more than 12 months and more frequently in hard water areas (heavy lime scale) areas.

In the unlikely event that any problems are encountered with the product's performance on installation, you must obtain guidance/authorisation from our Customer Service Department, and be able to supply proof and date of purchase, before any remedial action is taken.

The guarantee excludes general wear and tear and damage caused by accident, misuse or neglect, and does not cover the following:

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Guarantee & Service Policy

- Components that are subject to general wear and tear such as filters, seals, 'O' rings and washers etc.
- Damage caused by faulty installation
- Damage caused by lime scale or any waterborne debris
- Damage caused by inappropriate cleaning products (see cleaning section)
- Damage caused by the use of non-Bristan parts
- The product being used for a purpose other than intended by the manufacturer.

In the interests of continuous product improvement Bristan reserves the right to alter specification as necessary.

Replacement Parts Policy

Important:

In the event of product or component malfunction, DO NOT tamper with or remove the product from site. Telephone the Customer Services Department and be prepared with the date of purchase, model number and a clear description of the complaint.

Our service staff are fully qualified to advise on correct installation procedures and will be able to diagnose whether the fault will require a replacement part or a visit from a Bristan engineer.

If required, a service call will be booked and either yourself or an appointed representative (who should be a person of 18 years or over) must be present during the visit.

All site visits to products out of guarantee will be carried out free of any parts or labour charges provided the conditions of the guarantee have been adhered to (the 2nd to 5th year of the guarantee is parts only, unless registered).

All site visits to products out of guarantee will be subject to charges for parts and labour. Charges will also be levied on cancelled appointments, unless advised to Bristan at least 24 hours in advance of the agreed date and time.

Should a product be discontinued, Spare parts stocks will be maintained, but in the event of a part becoming unavailable Bristan reserve the right to supply a substitute of equal quality.

In order to log an enquiry with us please visit http://www.bristan.com/customerservice

Opening times: Please refer to the Bristan website.

Customer Service: Tel: 0844 701 6273 • Fax: 0844 701 6275

Part Number: 800446
Issue: FI Opac Lever Range D1

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